5

What is claimed is:

A circuit for amplifying an input signal, comprising: 1.

a power amplifier that receives the input signal and produces an output signal;

an amplitude detector coupled to an output of the power amplifier that produces

a first measurement that corresponds to the amplitude of the output signal;

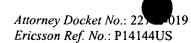
a power source for providing power to the power amplifier;

a current detector that produces a second measurement that corresponds to the current flowing into the power amplifier from the power source;

an adder for adding the first measurement with the second measurement to produce a third measurement; and

a control circuit connected to a biasing pin of the power amplifier for comparing the third measurement to a reference and for controlling the output power of the power amplifier based on the comparison.

- 2. The circuit of claim 1, wherein the amplitude detector comprises an envelope detector.
- 3. The circuit of claim 2, wherein the envelope detector comprises a diode and a resistor connected in parallel with a capacitor, wherein the diode is connected in series with the resistor and the capacitor.



4. The circuit of claim 3, wherein the amplitude detector further comprises a voltage to current generator that receives an output voltage from the envelope detector and converts the output voltage to a current.

- 5. The circuit of claim 4, wherein the voltage to current generator comprises a transistor.
- 6. The circuit of claim 1, wherein the current detector comprises a first resistor and the adder comprises a second resistor, wherein the resistance of the second resistor is larger than the resistance of the first resistor.
- 7. A mobile communication device comprising a circuit according to claim 1.

CDETTO COLUMN 15

5

8. A circuit for amplifying an input signal, comprising:

an amplitude detector means, coupled to an output of the power amplifier, for

a power amplifier that receives the input signal and produces an output signal;

producing a first measurement that corresponds to the amplitude of the output signal;

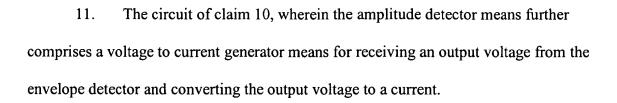
a means for providing power to the power amplifier;

a current detector means for producing a second measurement that corresponds to a current flowing into the power amplifier from the power providing means;

an adding means for adding the first measurement with the second measurement to produce a third measurement; and

a control circuit means, connected to a biasing pin of the power amplifier, for comparing the third measurement to a reference and for controlling the output power of the power amplifier based on the comparison.

- 9. The circuit of claim 8 wherein the amplitude detector means comprises an envelope detector.
- 10. The circuit of claim 9, wherein the envelope detector comprises a diode and a resistor connected in parallel with a capacitor, wherein the diode is connected in series with the resistor and the capacitor.



- 12. The circuit of claim 11, wherein the voltage to current generator means comprises a transistor.
- 13. The circuit of claim 8, wherein the current detector means comprises a first resistor and the adding means comprises a second resistor, wherein the resistance of the second resistor is larger than the resistance of the first resistor.
- 14. A mobile communication device comprising a circuit according to claim 8.

5

15. A method, comprising the steps of:

producing a first measurement corresponding to the amount of current flowing into a power amplifier from a power source;

producing a second measurement corresponding to the amplitude of an output signal produced by the power amplifier;

adding the first measurement to the second measurement to produce a sum; comparing the sum to a reference; controlling the power amplifier based on a result of the comparison.

- 16. The method of claim 15, wherein the step of controlling the power amplifier comprises the step of applying a voltage to a biasing pin of the power amplifier.
- 17. The method of claim 16, wherein the magnitude of the voltage is a function of the difference between the sum and the reference.